



Cabinet Office

2019 National Security Risk Assessment

An assessment of risks and their common consequences

Foreword

The United Kingdom has a world-leading national approach to resilience and emergency response. Our ability to mitigate, respond and recover from significant events is vital to protect our people, values and way of life. Robust, evidence-led risk assessment underpins everything we do and enables contingency planning at all levels.

The National Security Risk Assessment (NSRA) assesses the key risks that could potentially damage the safety or security of the UK or our interests both domestically and overseas. It also draws out the consequences in the event of such scenarios occurring. This makes the NSRA an effective tool that can be used at all levels of government to drive risk management and an essential part of the way we approach national security.

The analytical framework ensures that our capabilities, plans and priorities are driven by evidence and expert judgement, and that risks are assessed in a consistent way. Crucially, the NSRA recognises that a large number of risks that the UK faces can be planned for generically: taking a risk agnostic approach and making sure our capabilities are used in the most effective and efficient ways. The global risk landscape is perpetually changing, making it essential that we update the risk assessment evidence base regularly and identify ways to continuously improve our risk management processes.

The 2019 NSRA builds on the strengths of previous iterations, including combining the National Risk Assessment and the National Security Risk Assessment, in order to deliver a unified risk assessment framework and directly compare malicious and non-malicious, domestic and international risks. This recognises that risks can transcend borders and acknowledges that domestic and international risks will often interconnect. This iteration also has an increased focus on the capabilities required to enable effective recovery.

In line with previous versions, as much information as possible has been included at OFFICIAL-SENSITIVE classification to enhance usability and transparency.

The production of the NSRA has been supported throughout by an extensive stakeholder group, who have been dedicated in providing evidence and challenge. This has included relevant government departments, Devolved Administrations, Chief Scientific Advisers, the intelligence community, and Local Resilience Forums, as well as experts from academia and industry.

This broad community is essential in the delivery of the assessment, and in ensuring that the NSRA meets the needs of its users. Recipients of the NSRA should continue to exercise care in how this document is used and interpreted, focusing on the planning activities that result from the risks, rather than where specific risks fall on the matrix. Ultimately, any assessment is only worthwhile if it is used, and translated into actions to meet the challenges ahead.

Sir Patrick Vallance

The NSRA Risk Matrix

OFFICIAL SENSITIVE

The NSRA risk matrix

	Catastrophic 5	Major attack - interrelated urban area	Multiple type incidents Attack - civil nuclear installation	Biological attack - interrelated urban area	
	Vary High 4	Loss of terrestrial communications High altitude electromagnetic pulse Fire or explosion at an oilfield or refinery Radiation release from increased nuclear accident Civil nuclear accident	Missile or rocket incident Attack - electricity infrastructure	Power flooding Control flooding Failure of the National electricity transmission system	Any war involving UK Nuclear conflict overseas Biological attack - interrelated urban area Chemical attack - interrelated urban area Conventional ballistic missile attack Strategic nuclear strike
	High 3	Fire or explosion at a fuel distribution site Fire or explosion at a gas terminal or storage site Fire or explosion at a high pressure gas pipeline Fire or explosion at an onshore fuel pipeline Fire or explosion at an offshore gas platform Aviation crash Reservoir dam collapse	Disrupt Operational choice between partners Disruption of critical based services Major fire Large scale chemical release Systemic financial crisis Nuclear or rocket incident Attack - gas infrastructure Armed disease	Public disorder Increase in money laundering Natural disaster - overseas Domestic space weather Submarine flooding Poor air quality Growth and spread of antimicrobial resistance Emerging infectious diseases Armed attack on NATO ally International military crisis Attack - fuel supply infrastructure Food supply infrastructure Malicious attack leading to building collapse	Low interconnectivity between critical infrastructure Health care Disrupt Disrupt the production Disrupt of UK foreign policy Chemical attack - interrelated urban area Nuclear or rocket incident Chemical attack - interrelated urban area
	Moderate 2	Widespread industrial action (fuel supply) Disruption to global air traffic routes Fire or explosion at an offshore oil or gas platform Accidental release of biological pathogen Maritime pollution	Widespread industrial action (fuel supply) Accident involving high consequence dangerous goods Gas supply failure Water infrastructure failure or loss of drinking water	Corruption and bribery Operational irregularities Natural disasters - Overseas Territories Increase in non-fatal fraud and market abuse Disruption of gas supply through Ukraine Undermining of confidence in government Nuclear weapon development by hostile state Accidental release of biological pathogen Collapse of a major government contractor Major social care provider failure Armed attack High profile assassination	Widespread industrial action (highlights widespread industrial action (fuel transport) Humanitarian crisis due to famine Subversive activity against EU/NATO Terrorist attack overseas Person-to-person ingested explosive device Escalation in Northern Ireland related terrorism
	Low 1	Radiation exposure from waste goods	Increase in modern slavery and human trafficking Disruption to or loss of telecommunications systems Cyber attack - SWIFT financial messaging system	Food supply for European countries (UK) Undermining democratic process Cyber attack - government critical systems Disrupt - government data breach Cyber attack - satellite assets Cyber attack - telecommunications systems	UK response to ICA Advisory Opinion UK unable to resolve overseas through diplomatic relations Cyber attack - transport Nuclear state space sovereignty Maritime piracy Technological failure at a major site Malicious fuel supply contamination
		1	2	3	4

*These risks are only both a SECRET and are not included in this document. For further information see Annex C.

OFFICIAL SENSITIVE

	Catastrophic 5	Major attack - interrelated urban area	Multiple type incidents Attack - civil nuclear installation	Biological attack - interrelated urban area	
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Likelihood

R95 - DHSC

Influenza-type pandemic DHSC (R95 – DHSC)

Overall Assessment:
VERY HIGH

Description

An influenza pandemic is a worldwide outbreak of influenza, which occurs when a flu virus emerges that is different from current or recently circulating seasonal influenza strains with sustained human-to-human transmission. There would be little or no immunity in the population which would allow the virus to spread rapidly and make it likely to be more virulent than seasonal influenza. The virus will rapidly spread across the world, even before it has been fully identified. The short incubation period of influenza means that within a relatively short period of time a significant number of cases will appear. Up to 50% of the UK population may fall ill with up to 20% of people off work during the peak weeks causing a significant impact on business continuity. Critical national infrastructure may also be affected during peak periods. There would be a huge surge in demand for health and social care services.

Besides very severe levels of stress on the NHS, the level of excess deaths would stretch capacity within organisations involved in the management of deaths. This would be felt on a national scale, with local capacity likely to start to be overwhelmed during the peak of the pandemic. Whilst not explicitly stated in every case, influenza-type pandemic would likely compound the effects of the vast majority of risks in the NSRA as all sectors would experience staffing pressures.



Star – Reasonable worst case scenario
Arrows – Uncertainty bounds (if applicable)

Impact Scores		
Dimension	Highest Score (0-5)	Breadth of impact
Human Welfare	5	20/45
Behavioural	5	9/10
Essential Services	5	56/125
Security	5	19/25
International Order	3	4/30
Environment	0	0/5
Economic	5	5/5
	Overall score: 5	Total 113/245

Highest score shows the maximum individual impact in the dimension. Breadth shows the range of impacts across the dimension.

Response Capability Requirements

Procedures related to disease surveillance and early detection, plus any associated infrastructure, should be in place. Robust and tested arrangements for rapid scientific and clinical advice should similarly be in place. Local and national plans for management of excess deaths resulting from any mass casualty event should be present. Local and national plans to deal with a surge in demand for health and social care services need to be accounted for. There needs to be stockpiles of countermeasures and advanced purchase arrangements for those which cannot be acquired in advance. Communication plans to encourage social distancing and good hygiene should be active. Sector resilience plans, including planning for absence of key workers, need enforcing.

Recovery

It is predicted that an influenza pandemic would come in multiple waves. This means that recovery from one wave could be hampered by the arrival of a subsequent wave. Even after the end of a pandemic, it is likely that it would take months, or even years, for the health and social care services to recover, although an exact timescale cannot be predicted. It is likely that the economic impact would be felt for years.

Key Uncertainties

Each pandemic is different and the nature of the virus, where and the time of year it will emerge, and its impacts cannot be known in advance.

Variations

A novel pandemic virus could be both highly transmissible and highly virulent. Therefore, pandemics significantly more serious than the reasonable worst case described above are possible.

Linked and Compound Risks

- The growth and spread of antimicrobial resistance
- Low temperatures and heavy snow
- Failure of the national electricity transmission network
- Animal disease

Planning Assumptions

- A: Excess casualties and fatalities
- G: British Nationals requiring assistance whilst abroad and/or on return to the UK.
- J: Prolonged public outrage and behavioural change
- Disruption to:
 - K: Transport services
 - L: Energy supplies
 - OIV: Health/emergency services
 - P: Finance
 - R: Food supplies
 - U: Education
 - M: Communications
 - T: Security

R97 - DHSC

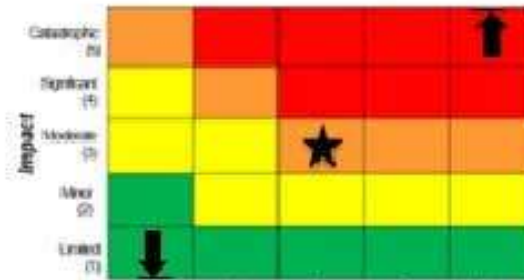
Emerging infectious disease
DHSC (R97 - DHSC)

Overall Assessment:
AMBER

Description

A new or newly recognised outbreak of a high consequence infectious disease which is airborne, spreading rapidly from person-to-person, and making contact tracing difficult. An emerging respiratory coronavirus infection in the UK may be similar to the outbreak of Middle East Respiratory Syndrome (MERS) seen in South Korea in 2015 or could be part of a global outbreak such as the outbreak of Severe Acute Respiratory Syndrome in 2003. Currently, MERS poses the highest risk. This would arise in another country and then arrive in the UK before it is identified. It is possible that a novel infection could arise in the UK first but this is less likely.

Impacts would include an increased demand on specialist intensive care and infectious diseases facilities; short-term localised disruption to routine healthcare activities if outbreaks occur in hospital settings; possible disruption of several, or more, weeks to elective procedures; contacts of cases being placed under health surveillance; and public concern about travel, within and beyond the UK and possible international travel restriction advice. As a novel or emerging pathogen it is unlikely that effective vaccines will be available and the effectiveness of existing antivirals/antibiotics will be unclear, as will optimal clinical management strategies.



Star - Reasonable worst case scenario
Arrows - Uncertainty bounds (if applicable)

Impact Scores		
Dimension	Highest Score (0-5)	Breadth of impact
Human Welfare	4	9/45
Behavioural	3	6/10
Essential Services	5	21/125
Security	0	0/25
International Order	0	0/30
Environment	0	0/5
Economic	4	4/5
	Overall score: 3	Total 40/245

Highest score shows the maximum individual impact in the dimension. Breadth shows the range of impacts across the dimension.

Response Capability Requirements

The capability requirements include disease surveillance systems, staff trained in enhanced infection control practices, adequate access to personalised protective equipment, adequate access to public health staff for contact tracing and follow-up and excess death management capabilities (including potential infectious material). Decontamination services need to be available. Appropriate specialist healthcare services e.g. high level-isolation units must be accessible, as well as appropriate facilities for quarantine.

Recovery

For the individuals infected, the outcome of any infectious disease is that the infected individual recovers and may be subsequently immune to further infection with the same strain of organism or dies as a result of the infection. However, there could well be long-term consequences as a result of the disease, including becoming a chronic illness.

Key Uncertainties

This risk has low confidence. There is significant uncertainty about the frequency with which an emerging infection may develop the ability to transmit from person to person. Regarding impact, due to the nature of an emerging infectious disease there is some uncertainty as to whether a different emerging pathogen, including one which was airborne, would lead to an outbreak similar to those seen previously.

Variations

There is the possibility of Ebola or another highly infectious viral haemorrhagic fever emerging as a global public health threat. Based on recent examples, this would likely emerge overseas and could be brought to the UK via recent travellers. The mosquito vectors (*Aedes* species) that can transmit Zika virus, dengue and chikungunya are currently spreading across Europe and there is a risk of these mosquitoes becoming established in the UK, which could result in these vector-borne diseases becoming more common. A further scenario variation may result from the emergence of a new sexually transmitted infection.

Linked and Compound Risks

The growth and spread of antimicrobial resistance
Influenza-type pandemic
Low temperatures and heavy snow
Major Social Care Provider failure

Planning Assumptions

B: Excess casualties and fatalities
Disruption to:
O: Health services
V: Emergency services